

United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Veterinary
Services

Colostrum Management on U.S. Dairy Farms

National Dairy Heifer Evaluation Project

The first and most important feed given to the dairy calf is colostrum. Colostrum is the newborn's primary source of nutrients and the immunoglobulins that help reduce the risk of early calfhood disease and possible death.

Calves are born with little or no immunity or natural resistance to disease and infections since their blood contains no immunoglobulins at birth. Thus, the immunity that a newborn acquires through colostrum contributes to the animal's chances of survival.

Since the importance of colostrum is well documented, the National Animal Health Monitoring System (USDA:APHIS:VS) wanted to learn more about the management practices used by U.S. dairy farmers in relation to colostrum feeding and management. During a 1991-92 study called the National Dairy Heifer Evaluation Project (NDHEP),

Figure 1. Sources of First Colostrum Used by Dairy Producers

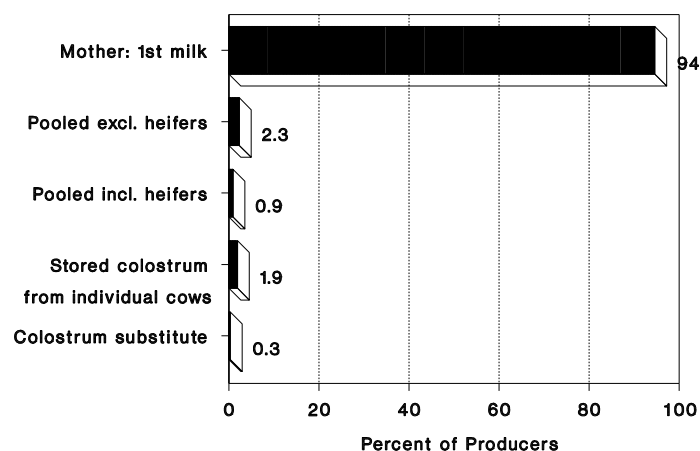
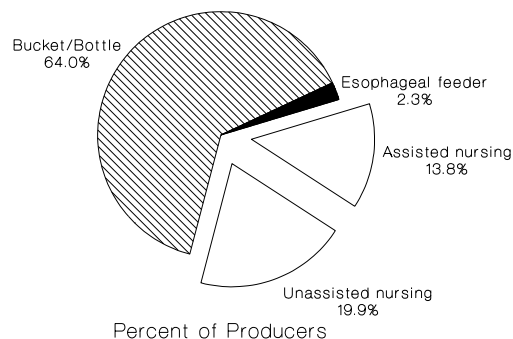


Figure 2. How First Colostrum Is Fed to U.S. Calves



dairy farmers were asked about colostrum management practices on their farms.

The NDHEP included 1,811 farms in 28 states that were selected to represent herds of 30 or more cows in those states. These herds represent 78 percent of the National dairy cow population.

Calves on nearly 95 percent of the farms receive colostrum from their dam's first milking, shown in Figure 1. Other items, such as pooled colostrum and stored colostrum from individual cows, represent small components of the first feeding. Colostrum substitutes represent a tiny fraction of the first feeding.

The method used to feed this colostrum can be an important factor in the overall management of a farm. While several systems can work, some may be more effective under certain management situations than others. Figure 2 shows that calves on nearly two-thirds of the farms are fed first colostrum from a bucket, bottle, or esophageal feeder. This management practice allows the person feeding

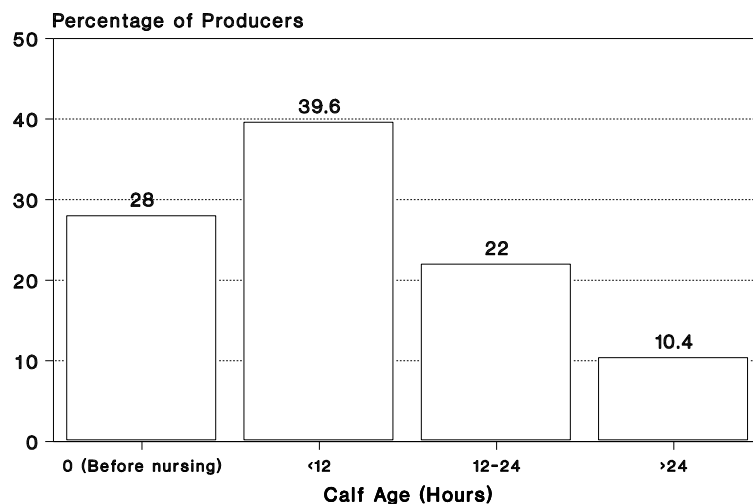
¹States participating in the National Dairy Heifer Evaluation Project (NDHEP): Alabama, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, North Carolina, Pennsylvania, Ohio, Oregon, Rhode Island, Tennessee, Vermont, Virginia, Washington, and Wisconsin.

the calf to determine the amount of colostrum being delivered in this critical first feeding. The ability to measure colostrum quantity is not available on the remaining one-third farms where the calves are allowed to nurse. However, 40 percent of the producers who allow the calf to nurse assist with the process, thereby increasing the chance of calves receiving adequate amounts of first colostrum.

Ninety-five percent of the represented herds were Holstein herds. Figure 3 shows the amount of colostrum fed during the first 24 hours by farmers that feed Holsteins a known amount from a bucket, bottle, or esophageal feeder. Calves in almost three-fourths of the herds are fed less than four quarts of colostrum during the first feeding.

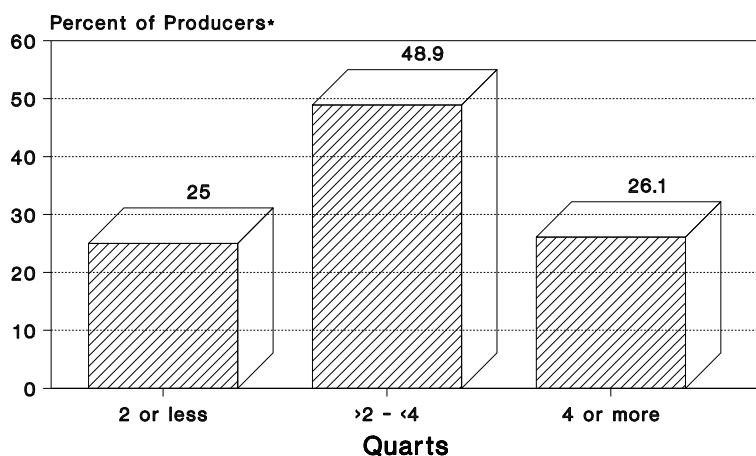
Figure 4 shows that 28 percent of producers separate calves from their dams at birth and before any nursing. Nearly 70 percent remove calves from their dams in less than 12 hours. The age calves are separated may be related to health management and disease transmission.

Figure 4. Percentage of Producers Who Separate Newborn Calves from Their Mothers by Hours After Birth



As the final NDHEP results are compiled, these and other management and health factors related to newborn calves will be analyzed to provide further assistance to help determine associations between calf health and management.

Figure 3. Amount of Colostrum Delivered to Holstein Calves During the First 24 Hours



Participants in the NDHEP also included the National Agricultural Statistics Service (USDA) and State and Federal Veterinary Medical Officers. The Cooperative Extension Service provided editorial assistance. For more information on the National Dairy Heifer Evaluation Project and other NAHMS programs, please contact:

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